nerves both by direct irritation and by section with subsequent excitation of the centre by warmth. As the result he found in the medulla oblongata a centre for the sweat-nerves of both fore and hind legs. From this the fibres for the anterior extremity follow the cord, leave it at the fourth dorsal vertebra, enter the ganglion stellatum and thence pass into the brachial plexus. Following the ulnar and median nerves they are found inequally distributed in these two nerves in different animals. The fibres going to the hind legs pass in the cord up to its lumbar portion, thence enter the abdominal sympathetic and finally join the sciatic nerve.

In the following number of the *Centralblatt* (No. 3), Luchsinger mentions that he has also traced the fibres of the fore leg along the same paths.

The following are the titles of some recent memoirs on the Anatomy and Physiology of the Nervous System :

Ott, Nerve Stretching; Its Physiological Action, *Ohio Med. and Surg. Journal*, Feb.; The Effect of Electrotonus on the Rapidity of the Transmission of Nerve Force, *Phil. Med. Times*, Feb. 2; Dietl and Vintschgau, The State of the Physiological Reaction-period under the Influence of Morphine, Coffee, and Wine, *Pflueger's Archiv*, XVI., VIII., Feb.; Kowalewski and Nawrocki, Sensory Nerves of the Muscles, *Centralbl. f. d. Med. Wissensch.*, No. 9; Luchsinger, On the Sweat Secretion, *Ibid.*

b.—PATHOLOGY OF THE NERVOUS SYSTEM AND MIND, AND PATHOLOGICAL ANATOMY.

Sensibility in Tabes dorsalis.—E. Remak (*Arch. f. Psych.*, etc., VII., H. 3) observed the following new phenomenon in the case of a man afflicted for years with ataxia. On searching for the minimum current, just sufficient to produce the feeling of formication on applying the faradic brush to the skin of the thigh, he found, that the sensibility at first quite acute, soon became exhausted. This fatigue necessitated such an increase in the strength of current for perception, that finally the current, in order to be at all perceptible, had to be quite painful. This peculiar ready exhaustibility of the tactile nerves, existed also for the sensations of contact, pressure and temperature. Since Remak found this condition likewise in the plantar skin, he suggests that it may be the cause of the frequent complaint in ataxia of an *elastic* sensation underneath the feet. (*Centralblatt*, No. 3, 1878.)

Epileptic Attack from Action of Vagus, by Dr. O. Langendorff and stud. R. Zander. (*Centralblatt*, No. 4, 1878.)

While it is difficult to obtain complete arrest of the heart in the normal rabbit by irritation of the peripheral end of the divided vagus, this result is easily obtained after the use of chloral. On irritating the nerve in animals whose voluntary movements had been suppressed by a dose of about 0.5 grm. of chloral, Langendorff and Zander observed the following result: The heart being arrested in diastole, there occurred after the lapse of ten or fifteen seconds a complete epileptic attack. All details corresponded exactly to the description by Kussmaul of epileptic fit caused by hemorrhage or cerebral anæmia. The latter is evidently the cause of the phenomenon similar to ordinary anæmic epilepsy; these spasms also are prevented by complete narcosis. Hence the above dose of chloral cannot be exceeded.

INTRA-VENTRICULAR HEMORRHAGES.—C. Gallopain, *Thèse de Paris*, 1877 (*Ann. Méd. Psychologiques*, Nov. 1877). The author studies the intra-ventricular hemorrhages of cerebral origin for the purpose of determining their value and exact signification, in short to elucidate the pathogeny of the symptom of contracture which we usually observe in these cases. We cannot do better than to give the conclusions of his paper.

The hemorrhagic *foyers* in the optic thalamus are the ones that are most frequently accompanied with inundation of the ventricles.

Convulsive phenomena occur in more than half the cases of ventricular hemorrhage.

There is no relation as of cause and effect between the ventricular inundation and the convulsive symptoms.

The appearance of these latter accidents only indicates the more or less intimate relations of the foyer with the excito-motor centres.

Finally, in the great majority of cases of intra-ventricular hemorrhages accompanied with convulsive phenomena, these latter are due to an irritation of the cerebral peduncles, an irritation which is often a direct one.

WRITERS' CRAMP.—At the meeting of the Royal Medical and Chirurgical Society of London, Feb. 12 (rep. in *Brit. Med. Journal*), Dr. G. V. Poore read a paper entitled, An Analysis of Seventy-five Cases of "Writers' Cramp" and Impaired Writing Power. The report of his paper is as follows·

In seventy-four of these cases, the condition of the hand completely overshadowed any other disease, whether general or local, from which the patients at the time were suffering. Most of the cases merited the name of "Writers' Cramp" or had been so called; but the author purposely included a few cases which obviously did not merit the name. The cases fell naturally into six groups: 1. Paralytic (six cases); 2. Spasmodic (five cases); 3. Degenerative (nine cases); 4. Neuralgic or Neuritic (nineteen cases); 5. Writers' Cramp (thirty-two cases); 6. Anomalous (four cases). The cases were arranged in a tabulated form. It was shown that, since the ulnar nerve supplies thirteen and a half out of the eighteen intrinsic muscles of the hand, its integrity is very necessary (more necessary than that of any other nerve of the hand) for all delicate manipulation, especially writing. The spasms which affect the hand, and which are particularly prone to follow attacks of hemiplegia, owe sometimes, there is good reason to believe, their character, if not their origin, to a faulty antagonism (due to a secondary paralysis or paresis) among the muscles of the paralyzed limb. Although it is commonly received that such spasms are due to disturbance of the gray cerebral matter, it is well to look also to the peripheral aspects of the question. Provided a nervous impulse issuing from the brain be distributed in a limb to equally irritable muscles which mutually antagonize each other, it is difficult to conceive that spasm of definite form should be produced; but should the equilibrium of antagonization in the limb be destroyed by a secondary lesion, the production of definite spasm is easily conceivable, especially when voluntary control is lessened by a lesion of the central ganglia. In some cases of localized spasm there is no evidence of central change, and it is theoretically possible that the action of a disordered centre on a healthy periphera and the reaction of disordered periphera on a healthy centre may be identical in their results. Loss of writing power is often the first and most prominent symptom of degenerative change occurring in the spinal cord or brain. The neuritic or neuralgic group is characterized by a painful and tender condition of the nerves of the limb, which may be induced solely by overwork, but more frequently by a strain or similar injury combined with exposure to cold and a depressed state of health. Of the nineteen cases of this group twelve were females. Any attempt to use the arm either for coarse or fine acts produced fatigue, pain, and neuralgia. It is not always easy to distinguish these cases from true "writers' cramp," and, indeed, there cannot be said to be any hard and fast line between the two groups; but it is characteristic of the neuralgic group that—1. The symptoms involve a wider area; 2. The symptoms are sometimes induced without excessive exercise of any function; 3. Nerve tenderness or neuralgia is a prominent symptom. In the group of true "writers' cramp," considerable care is necessary to detect peripheral evidence of mischief; but the author stated that, in every case of impaired writing power which he had seen there had been evidence more or less marked of derangement of one or more of the muscles used for writing. This evidence consisted of—1. Obvious failure to use certain muscles efficiently either for writing or for some other less complicated act; 2. The occurrence of consentaneous movements or tremor when certain muscles were put in action. 3. Depressed or exalted electric irritability; and 4. The occurrence of sensory derangement or nerve tenderness. The muscles which are most frequently involved are those of pen-prehension rather than those of pen-movement. Reviewing the cases as a whole, attention was directed—1. To the inferences which may be drawn from an inspection of the handwriting; 2. To the fact that joints were found to be implicated no less than twenty-one times, the joint affection being rheumatic, neuropathic, gouty, or due to strained position; 3. To the fact that a difficulty is not very infrequently hereditary, or developed very early in life; and that, 4. Any evidence of involvement of the nerve-centres is decidedly rare. "Writers' cramp" has been spoken of as a disease of "faulty co-ordination" and there can be no doubt that such is the case, for it is evident that the muscles used for writing fail to work orderly together. We are not, however, justified in assuming the existence of a special co-ordinating centre for the controlling of the act of writing; and the author had been unable to find evidence that this centre (supposing it to exist) ever gives way, leaving the periphera, except for the special co-ordinated act, in a state of perfect health. The existence of such a centre appeared to the author to be improbable, for the following reasons: 1. He had never seen a case of writers' cramp without peripheral evidence of change; and in the majority of instances there had been no evidence of change other than peripheral. 2. If there be a co-ordinating centre for writing, it must be created as it were by education. The co-ordination of writing, which we are many years in acquiring, must be distinguished from those co-ordinated movements (such as the symmetrical movement of the two eyes) which are wholly independent of education. The fact that no two people hold their pens exactly alike, and that it is scarcely more difficult to write with the toes than with the fingers is much against the probability of there being a writing centre. 3. Writers' cramp is never suddenly established as aphasia sometimes is. 4. It is almost certain that a purely peripheral lesion may cause all the symptoms of writers' cramp. 5. The fact that the left hand (if used for writing) sometimes suffers as well as the right, is no evidence that the change is central. In previous writings, the author had spoken of "writers' cramp" as a "fatigue disease," and he was still inclined to adhere to the word "fatigue" as a convenient expression for an easily recognizable and familiar condition, of the pathology of which we are uncertain. He was inclined to think that occasionally fatigue is the expression of hyperæmia or mild inflammation of a motor nerve, and that the same condition may be produced either by overwork or by accidental causes, such as cold, strain, "rheumatism" or injury. Fatigue especially attacks those muscles which are subjected to prolonged strain; and it is probable that the relative frequency of "writers' cramp," as compared with other professional ailments, is due to the fact that prolonged strain of certain muscles (those which hold and steady the pen) is inseparable from the act of writing. Finally, as to the position of "writers' cramp" in the catalogue of diseases, the author would feel inclined to class it with neuralgia, that is, with a disease the phenomena of which are purely local, but which we recognize as being due not only to conditions affecting the sensory area involved, but also to molecular change affecting any part of the sensory fibre, whether before or after its function with the nerve-centre. The author concluded by laying down certain principles of treatment for the various forms of impaired writing power.

SPINAL HEMIPLEGIA.—H. Köbner, *Deutsch. Arch. f. klin. Med.* (abstr. in *Revue des Sci. Med.*) The author analyzes the 48 cases of spinal hemiplegia which he finds in medical literature. He adds to these two, before unpublished cases of his own, and from all these facts draws conclusions not notably differing from those formulated by Brown-Sequard.

On the side corresponding to the medullary lesion, are,

1. Motor paralysis, complete or incomplete, according to the gravity of the case.
2. Hyperæsthesia to touch, tickling, pain and temperature in the paralyzed side.
3. Anæsthetic zone in the region whose nerves rise just below the lesion.
4. A larger or smaller hyperæsthetic band above the anæsthetic zone.
5. Absolute or relative elevation of temperature in the paralyzed parts,

and, also, frequently in the parts where there is hyperæsthesia without paralysis.

6. Paralytic phenomena in the cervical sympathetic when the lesion is situated above the cervical enlargement.

On the side opposite the lesion we find,

1. Complete anæsthesia to touch, tickling and temperature.
2. Preservation of voluntary motion and muscular sensibility.
3. Narrow band of hyperæsthesia below the anæsthetized part.

SYPHILITIC NERVOUS DISEASE.—Dr. Hugo Engel, in a paper on the diagnosis and treatment of syphilitic nervous affections, *Phila. Med. Times*, Dec. 22, 1877, sums up in regard to the former of these points as follows:

Syphilitic nervous affections which simulate grave and often incurable diseases from other sources, namely, acute meningitis, apoplexy from other causes, epilepsy, softening of the cord, etc., are recognized as specific in their nature, even if this nature be denied, by the following points:

1. The aspect of the case, as recognized by the features, the pulse, the temperature, the violence of symptoms, lacks that gravity which would attend a non-specific case of the same character.
2. There is total absence of any history, as usually elicitable in such affections, when not produced by lues, or the history points to certain warning symptoms like headache and vertigo, worse towards night, irritable temper, numbness, etc., totally different from similar cases of a non-specific nature. The patient either does, or will not know any causing element.
3. In paralysis the electro-muscular contractility is never totally abolished; and if it would seem so, it is quickly re-established under a specific treatment that would never have that rapid influence in non-syphilitic cases.
4. There is no wasting of tissue for a long time in the affected limbs.
5. The spleen is invariably enlarged.

The following are some of the recently published papers on the Pathology of the Nervous System and Mind:

RECLUS, The Paralytic Luxations of the Femur, *Revue Mensuelle*, March; OUDIN, Atrophy of the Convolutions connected with Default of Usage of a Member, *Ibid*; GASQUET, On the Causes and Treatment of Drowsiness, *Practitioner*, March; DOUTRIBENTE, The Different Species of Remissions that occur in the Course of Progressive General Paralysis, *Annales Méd. Psych.*, March; GARIMOND, Contribution to the History of Epilepsy in its Relations to Mental Alienation, *Ibid.*; SHAW, Progressive Muscular Atrophy and its Pathology, *Proc. Med. Soc. of County of Kings*, April; MICHETTI, Herpetism and Insanity, *Archivio Italieno*, XV., I. and II., Jan. and March; CHARCOT, On Rhythmic Hysterical Chorea, *Progres Med.*, No. 7; ERB, An undescribed Form of Chronic Atrophic Spinal Paralysis (Poliomyelitis anterior chronica,) *Centralbl. f. Nervenheilk. Psychiatrie u. Gerichtl. Psychopathologie*, No. 3; SMOLER, Meniere's Disease, *Ibid.*; ERICHSEN, Lectures on Injuries of the Head, *Lancet* (*Am. Rep'r*), March; SEPPILLI, Contribution to the Study of Cerebral Syphilis, *Rivista Sperimentale*, III., III. and IV. OULMONT, On Athetosis, *Revue Mensuelle*, Feb.